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FIG. 11. Seedling of *Juglans nigra*. Nat. size.

FIG. 12. Seedling of *Hicoria ovata*. Nat. size.

FIGS. 13, 14. Seedlings of *Quercus velutina*. Nat. size.

FIG. 15. Seedling of *Quercus platanooides*. Half nat. size.

FIGS. 16, 17. Seedlings of *Fagus Americana*. Nat. size.

FIG. 18. Seedling of *Castanea dentata*. Three-fifths nat. size.

FIG. 19. Seedling of *Castanea dentata*. Nat. size.

A GRAMINICOLOUS DOASSANSIA.

OF the species of *Doassansia* enumerated by Setchell in 1892¹ eight are American. Of these four find their host in *Sagittaria*, two in *Potamogeton*, one in *Alisma*, and one in the quite dissimilar *Epilobium*. In 1894 Setchell described another species on *Sagittaria*². In 1895 Ellis and Dearness published another, also on *Sagittaria*,³ while a *Ranunculus* was the host of a species described by the writer in the same year⁴. To the list of hosts may now be added one of the Gramineæ.

Doassansia Zizaniæ, n. sp. Subgenus *DOASSANSIOPSIS* as emended, *BOTANICAL GAZETTE* 19:186. 1894.

Sori globose to ellipsoidal, black, the diameter varying nearly 100 μ from the average which is about 200 μ . Cortex of one crowded row of cells which are thick walled, dark brown, nearly opaque, more or less irregularly globose, about 6 μ in diameter. The spore layer beneath the cortex is irregular in thickness but generally about three spores deep. Spores lighter brown, rather thin walled, globose to polyhedral, crowded, 6–10 μ in diameter. Central portion of the sorus composed of pseudoparenchyma, the cells of which are but little larger than the spores. Sori also occur in which the spore layer is bounded within by cells like those of the cortex, the pseudoparenchyma being absent and the central part of the sorus empty.

In the culms of *Zizania aquatica* L., Racine and Kenosha, Wisconsin, September to December. The sori are most common and abundant in the central cavity of the culm, to the walls of which they are loosely attached, but they are often abundant in the looser tissue in the

¹ *Annals of Botany* 6:21.

² *BOT. GAZ.* 19:185.

³ *Bulletin Torrey Bot. Club* 22:364.

⁴ *BOT. GAZ.* 19:416.

middle of the culm wall and also in the sheaths. Two or three sori sometimes coalesce to form a large sorus. No spots are produced on the culms, but those containing the fungus are usually weaker and more flaccid. Attempts have been made from time to time during a period of two years to secure the germination of the spores in the moist chamber but without success, and as the species is soon to be distributed in Ellis and Everhart's *Fungi Columbiani* this description is published without the germination characters. The analogue of *D. Zizanie* is *D. intermedia* Setchell. The figure accompanying the description of that species⁵ shows the same general structure of the sorus. The present species differs especially in the thicker walled and more rounded cells of the cortex, thinner walled spores and smaller parenchymatous cells. — J. J. DAVIS, *Racine, Wisconsin*.

⁵ BOT. GAZ. 19: pl. 18. fig. 1.